

## CLAIMS

We claim:

- 1           1. Watertight decking, comprising:
  - 2           a first end panel, a second end panel, and at least one
  - 3           intermediate panel disposed between said first and second end
  - 4           panels, each of said panels being a rigid, load-bearing
  - 5           extrusion having a generally flat, planar upper surface and a
  - 6           bottom surface opposite said upper surface;
  - 7           said first end panel and said intermediate panel each
  - 8           further including:
    - 9           a first attachment edge;
    - 10           a tongue extending along said first attachment edge;
    - 11           a channel first wall depending from each said first
    - 12           attachment edge, and having an upper edge and a lower edge
    - 13           opposite said upper edge thereof;
    - 14           a channel floor extending from said lower edge of said
    - 15           channel first wall, and having a first wall edge and a
    - 16           second wall edge opposite said first wall edge thereof;
    - 17           a channel second wall extending from said second wall
    - 18           edge of said channel floor, spaced apart from and generally

19 parallel to said channel first wall, and having a lower  
20 edge and an upper edge opposite said lower edge thereof  
21 with said upper edge spaced apart from said first  
22 attachment edge;

23 an attachment flange extending outwardly from said  
24 lower edge of said channel second wall, generally coplanar  
25 with said channel floor;

26 said second end panel and said at least one intermediate  
27 panel each further including:

28 a second attachment edge;

29 a groove disposed along said second attachment edge,  
30 engaging said tongue of said first attachment edge of said  
31 first end panel and said intermediate panel when assembled  
32 therewith; and

33 a drip rail depending from said second end panel and  
34 said intermediate panel and spaced apart from said second  
35 attachment edge thereof, extending into said channel of  
36 said first end panel and said intermediate panel and  
37 bearing against said channel second wall and wedging said  
38 groove of said second attachment edge tightly against said  
39 tongue of said first attachment edge, forming a tongue and  
groove assembly and preventing relative lateral movement

41 between adjoining panels when at least two of said first  
42 end panel, said second end panel, and said at least one  
43 intermediate panel are assembled together.

1 2. The watertight decking according to claim 1, wherein  
2 said drip rail further includes an arcuately convex contact  
3 surface bearing against said channel second wall and smoothly  
4 increasing engagement pressure of said groove of said first  
5 attachment edge against said tongue of said second attachment  
6 edge when at least two of said first end, intermediate, and  
7 second end panels are assembled together.

1        3.    The watertight decking according to claim 2, further  
2 including:

3        a locking groove disposed along said channel second wall,  
4 facing said drip rail; and

5        a locking bead disposed along said contact surface of said  
6 drip rail, lockingly engaging said groove of said channel second  
7 wall when at least two of said first end, intermediate, and  
8 second end panels are assembled together.

1        4.    The watertight decking according to claim 1, wherein  
2 said drip rail further includes a sharp, lower edge for  
3 precluding capillary flow of moisture.

1        5.    The watertight decking according to claim 1, wherein  
2 the upper edge of said channel second wall is spaced apart from  
3 the bottom surface of the overlying one of said panels when  
4 assembled together, and defines a gap therebetween.

1        6.    The watertight decking according to claim 1, further  
2 including a resilient, moisture sealing bead disposed within  
3 said tongue and groove assembly when at least two of said first  
4 end, intermediate, and second end panels are assembled together.

1        7. Watertight decking, comprising:

2        a first end panel, a second end panel, and at least one  
3 intermediate panel disposed between said first and second end  
4 panels, each of said panels being a rigid, load-bearing  
5 extrusion having a generally flat, planar upper surface and a  
6 bottom surface opposite said upper surface;

7        said first end panel and said at least one intermediate  
8 panel each further including:

9                a first attachment edge;

10               a tongue and groove assembly first component extending  
11 along each said first attachment edge;

12               a channel first wall depending from each said first  
13 attachment edge, and having an upper edge and a lower edge  
14 opposite said upper edge thereof;

15               a channel floor extending from said lower edge of said  
16 channel first wall, and having a first wall edge and a  
17 second wall edge opposite said first wall edge thereof;

18               a channel second wall extending from said second wall  
19 edge of said channel floor, spaced apart from and generally  
20 parallel to said channel first wall, and having a lower  
21 edge and an upper edge opposite said lower edge thereof

22 with said upper edge spaced apart from said first  
23 attachment edge;

24 an attachment flange extending outwardly from said  
25 lower edge of said channel second wall, generally coplanar  
26 with said channel floor;

27 said second end and said intermediate panels each further  
28 including:

29 a second attachment edge;

30 a tongue and groove assembly second component disposed  
31 along said second attachment edge engaging said tongue and  
32 groove assembly first component of said first attachment  
33 edge of said first end panel and said intermediate panel  
34 when assembled therewith; and

35 a drip rail depending from said second end panel and  
36 said intermediate panel and spaced apart from said second  
37 attachment edge thereof, extending into said channel of  
38 said first end panel and said intermediate panel and  
39 bearing against said channel second wall and wedging said  
40 first component and said second component of said tongue  
41 and groove assembly respectively of said first and said  
42 second attachment edge tightly together, completing said  
tongue and groove assembly and preventing relative lateral

44 movement between adjoining panels when at least two of said  
45 first end panel, said second end panel and said  
46 intermediate panel are assembled together, said drip rail  
47 having a sharp lower edge for precluding capillary moisture  
48 flow.

1 8. The watertight decking according to claim 7, wherein:  
2 said tongue and groove assembly first component comprises a  
3 tongue; and  
4 said tongue and groove assembly second component comprises  
5 a groove.

1 9. The watertight decking according to claim 7, wherein  
2 said drip rail further includes an arcuately convex contact  
3 surface bearing against said channel second wall and smoothly  
4 increasing engagement pressure of said tongue and groove  
5 assembly when at least two of said first end, intermediate, and  
6 second end panels are assembled together.

1        10.    The watertight decking according to claim 9, further  
2 including:

3        a locking groove disposed along said channel second wall,  
4 facing said drip rail; and

5        a locking bead disposed along said contact surface of said  
6 drip rail, lockingly engaging said groove of said channel second  
7 wall when at least two of said first end, intermediate, and  
8 second end panels are assembled together.

1        11.    The watertight decking according to claim 7, wherein  
2 said upper edge of said channel second wall is spaced apart from  
3 said bottom surface of the overlying one of said panels when  
4 assembled together, and defines a gap therebetween.

1        12.    The watertight decking according to claim 7, further  
2 including a resilient, moisture sealing bead disposed within  
3 said tongue and groove assembly when at least two of said first  
4 end, intermediate, and second end panels are assembled together.



1        13. Watertight decking, comprising:

2        a first end panel, a second end panel, and at least one  
3 intermediate panel disposed between said first and second end  
4 panels, each of said panels being a rigid, load-bearing  
5 extrusion having a generally flat, planar upper surface and a  
6 bottom surface opposite said upper surface;

7        said first end panel and said at least one intermediate  
8 panel each further including:

9                a first attachment edge;

10               a tongue and groove assembly first component extending  
11 along each said first attachment edge;

12               a channel first wall depending from each said first  
13 attachment edge, and having an upper edge and a lower edge  
14 opposite said upper edge thereof;

15               a channel floor extending from said lower edge of said  
16 channel first wall, and having a first wall edge and a  
17 second wall edge opposite said first wall edge thereof;

18               a channel second wall extending from said second wall  
19 edge of said channel floor, spaced apart from and generally  
20 parallel to said channel first wall, and having a lower  
21 edge and an upper edge opposite said lower edge thereof

22 with said upper edge spaced apart from said first  
23 attachment edge;

24 an attachment flange extending outwardly from said  
25 lower edge of said channel second wall, generally coplanar  
26 with said channel floor;

27 said second end panel and said at least one intermediate  
28 panel each further including:

29 a second attachment edge;

30 a tongue and groove assembly second component disposed  
31 along said second attachment edge engaging said tongue and  
32 groove assembly first component of said first attachment  
33 edge of said first end panel and said intermediate panel  
34 when assembled therewith;

35 a drip rail depending from said second end panel and  
36 said intermediate panel and spaced apart from said second  
37 attachment edge thereof, extending into said channel of  
38 said first end panel and said intermediate panel and  
39 bearing against said channel second wall and wedging said  
40 first component and said second component of said tongue  
41 and groove assembly, respectively, of said first and said  
42 second attachment edge tightly together, completing said  
43 tongue and groove assembly and preventing relative lateral

44 movement between adjoining panels when at least two of said  
45 first end, intermediate, and second end panels are  
46 assembled together; and

47 wherein said upper edge of said channel second wall is  
48 spaced apart from said bottom surface of the overlying one  
49 of said panels when assembled together, and defines a gap  
50 therebetween.

1 14. The watertight decking according to claim 13, wherein:  
2 said tongue and groove assembly first component comprises a  
3 tongue; and

4 said tongue and groove assembly second component comprises  
5 a groove.

1 15. The watertight decking according to claim 13, wherein  
2 said drip rail further includes a sharp lower edge for  
3 precluding capillary flow of moisture.

1           16. The watertight decking according to claim 13, wherein  
2 said drip rail further includes an arcuately convex contact  
3 surface bearing against said channel second wall and smoothly  
4 increasing engagement pressure of said tongue and groove  
5 assembly when at least two of said first end, intermediate, and  
6 second end panels are assembled together.

1           17. The watertight decking according to claim 16, further  
2 including:

3           a locking groove disposed along said channel second wall,  
4 facing said drip rail; and

5           a locking bead disposed along said channel second wall  
6 contact surface of said drip rail, lockingly engaging said  
7 groove of said channel second wall when at least two of said  
8 first end, intermediate, and second end panels are assembled  
9 together.

1           18. The watertight decking according to claim 13, further  
2 including a resilient, moisture sealing bead disposed within  
3 said tongue and groove assembly when at least two of said first  
4 end, intermediate, and second end panels are assembled together.